

Status of Black Stork *Ciconia nigra* in Lesotho

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Le statut de la Cigogne noire *Ciconia nigra* au Lesotho. En 1996–2002, 25 sites de nidification de la Cigogne noire *Ciconia nigra* ont été recensés au Lesotho, la plupart ($n=18$) dans des zones montagneuses. La population nicheuse du pays est estimée à 35–50 couples. Tous les couples observés nichaient sur des falaises rocheuses, typiquement dans les gorges de rivières les plus importantes.

Summary. In 1996–2002, 25 breeding sites of Black Stork *Ciconia nigra* were found in Lesotho, most of them ($n=18$) in the highlands. The breeding population in the country is estimated at 35–50 pairs. All pairs nested on rocky cliffs, typically in larger river canyons.

The Black Stork's *Ciconia nigra* core breeding range extends across the temperate zone of the Palearctic from Spain to Japan (Elliott 1992). Small, isolated populations occur in south-east Africa, from Zambia in the north to the Western Cape, South Africa, in the south (Elliott 1992, Newton 2009). Only approximate estimates are available for the Afrotropical breeding population.

Siegfried (1967) listed c.42 Black Stork nest records for the whole of southern Africa and estimated the entire population at 34 breeding pairs, with just three in Lesotho, all of them in the highlands, at Mount aux Sources, Mokhotlong and in Sehlabathebe National Park. Osborne & Tigar (1991) recorded the presence of the species in Lesotho in 13 atlas squares, without providing any information on status. They estimated the Lesotho population at 10–50 birds, i.e. 5–25 pairs. Anderson (2005) estimated the southern African population at c.1,000 breeding pairs, with 100–500 pairs in Zimbabwe, at least 200 in South Africa, c.10 in Swaziland and 10–50 in Lesotho. These estimates, however, were not based on any systematic surveys. Here, I present a list of all breeding sites of the species in Lesotho, recorded during a first country-wide survey.

Study area and Methods

Lesotho has a surface area of 30,300 km² and is divided into four physical regions (Fig. 1): the mountains, called Maloti or Drakensberg (>1,800 m, covering 13,665 km² or 45.1% of the total area), the foothills (3,575 km² or 11.8%), the Senque Valley (6,605 km² or 21.8%) and the lowlands (6,454 km² or 21.3%). The natural vegetation of the lowlands and the lower Senque Valley is Highveld Grassland (also termed Moist Cold Highveld Grassland or *Cymbopogon*–

Themeda Veld), most of which has been converted into cultivated fields. The Afro-alpine Grasslands (*Themeda*–*Festuca* Alpine Veld) correspond to the summit plateau above 2,500 m, while the Afromontane Grasslands (Alti Mountain Grassland) consists of the rest of the Maloti (Low & Rebelo 1996, Ambrose *et al.* 2000).

In 1996–2002, extensive field surveys, during which special attention was paid to Black Storks, were conducted in various parts of Lesotho, especially in Maseru district, Mafeteng area, Semonkong, Thaba Tseka, Marakabei, Sehlabathebe, Mokhotlong, Sanni Pass, Katse Dam catchment area, Mohales Dam catchment area, Malibamatsu, Senquanyane, Khubelu and the upper Senque. If the species was not observed directly at nesting sites on rock cliffs, it was usually followed until the nest was located.

Results and Discussion

In total, 25 breeding sites were discovered (Fig. 1). Most were in the highlands, with just three in the foothills and four in the lowlands. Five breeding pairs were recorded in the Mohale Dam (upper Senquanyane) catchment area (c.460 km²), i.e. 1.1 pairs per 100 km². A similar density was recorded in the Matopo Hills, in Zimbabwe (Lorber 1982). However, in the other similar habitat in Lesotho, Katse Dam (Malibamatso) catchment area (608 km²), just two pairs were found, i.e. 0.5 pairs per 100 km² (Table 1). These figures are probably higher than for most other parts of Maloti, as these drainage systems create more suitable nesting and feeding habitats. In Semonkong (c.300 km²) and Thaba Tseka (c.300 km²) there was only one pair and none, respectively (pers. data).

All pairs nested on rocky cliffs, typically in larger river canyons. In the highlands, the

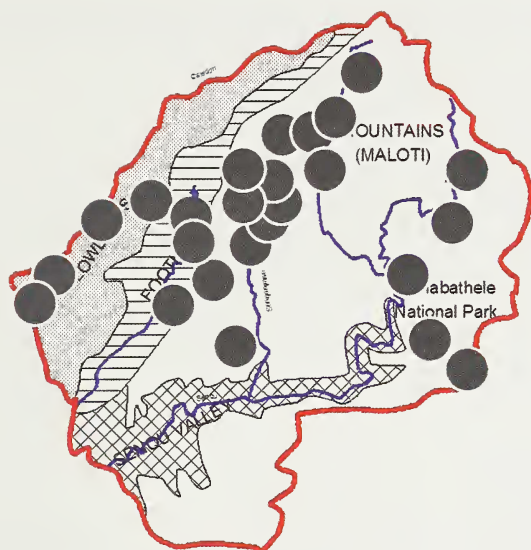


Figure 1. Distribution of Black Stork *Ciconia nigra* nesting sites in Lesotho, 1996–2002. Ecozones are indicated as follows: dotted—lowlands; lined—foothills; hatched—Senque Valley; blank—highlands.

Distribution des sites de nidification de la Cigogne noire *Ciconia nigra* au Lesotho, 1996–2002. Les écozones sont indiquées comme suit : pointillé—plaines; lignes horizontales—piedmonts; hachuré—vallée de la Senque; en blanc—zones montagneuses.

Table 1. Black Stork *Ciconia nigra* breeding sites in Lesotho, 1996–2002.

Tableau 1. Sites de nidification de la Cigogne noire *Ciconia nigra* au Lesotho, 1996–2002.

Location	Coordinates	Records	Source
Lowlands			
Confluence of Mohlaka-oa-tuka with Phuthiatsana	29°25'S 27°46'E	adult, 17 July 2001	Kopij (2001)
Queme Plateau			
Masite Plateau	29°37'S 27°27'E	nest, 23 Oct 1999	Kopij (2001)
Van Rooyen	29°45'S 27°07'E	adult, 1 Jan 1997	G. Kopij
Foothills			
St. Benedict on Makhaleng	29°55'S 27°52'E	adult, 2 Jan 1999	G. Kopij
Maleholoane	29°28'S 27°50'E	pair?	Kopij (2001)
Upper Dikolobeng	29°32'S 27°57'E	nest, 10 Apr 1999	G. Kopij
Highlands			
Mokhotlong town, gorge near hospital	29°18'S 29°03'E	nest, 21 Dec 2001; 3 chicks	G. Kopij
Mashai confluence with Senque, near St. Theresa	29°37'S 28°47'E	2 adults, 18 Jan 2002	G. Kopij
Mohales Dam catchment area, upper Joradane	29°18'S 28°02'E	pair	Allan <i>et al.</i> (1996)
Mohales Dam catchment area, middle Bekong	29°22'S 28°08'E	pair	Allan <i>et al.</i> (1996)
Mohales Dam catchment area, upper Senqunyane	29°13'S 28°15'E	pair	Allan <i>et al.</i> (1996)
Mohales Dam catchment area, upper Senqunyane	29°17'S 28°14'E	pair	Allan <i>et al.</i> (1996)
Mohales Dam catchment area, upper Senqunyane	29°22'S 28°12'E	pair	Allan <i>et al.</i> (1996)
Katse Dam, Malibamatso, 5.5 km above the dam	29°16'S 28°28'E	nest, 1996–97	Allan (1999)
Katse Dam catchment area	29°08'S 28°30'E	nest, 1991–97	Allan (1999)
Katse Dam catchment area	29°08'S 28°20'E	nest, 1991–97	Allan (1999)
Lower Senqunyane, below Mohale Dam	29°27'S 28°08'E	nest, 1996	Allan (1999)
Semonkong, La Bihan waterfall	29°52'S 28°03'E	nest, 2 Dec 2000; 1 chick	G. Kopij
Thaba Putsoa Mt.	29°46'S 27°55'E	adult, 27 Feb 1999	G. Kopij
Upper Senque Valley	29°08'S 29°02'E	pair? in Cape Vulture colony	Barnes (2001)
Liqobong, Butha-Buthe district	28°40'S 28°40'E	pair? in Cape Vulture colony	Barnes (2001)
Mafika-Lisiu, Leribe district	29°06'S 28°19'E	pair in Cape Vulture colony	Barnes (2001)
Sehonghong on Senque	29°48'S 28°59'E	pair? in Cape Vulture colony	Barnes (2001)
Sehlabathebe National Park	29°08'S 29°07'E	pair	G. Kopij

Table 2. Recorded and estimated number of Black Stork *Ciconia nigra* breeding sites in Lesotho, 1991–2002.
Tableau 2. Nombre recensé et estimé de sites de nidification de la Cigogne noire *Ciconia nigra* au Lesotho, 1991–2002.

Ecozone	No. of breeding sites	
	recorded	estimated
Lowlands	4	4–5
Foothills	3	4–7
Senque Valley	–	1–3
Highlands	18	26–35
Total	25	35–50

rocky cliffs are of basaltic origin; elsewhere of Clarens sandstone formation. In the lowlands, Black Storks nested on Clarens formation sandy rock cliffs around some plateaux. Four of the sites in the highlands were in Cape Vulture *Gyps coprotheres* colonies, and three in Southern Bald Ibis *Geronticus calvus* colonies.

Several breeding sites in the highlands and foothills presumably remain undiscovered. Approximately 5–10 sites are expected to occur along the upper Senque (not in the Senque Valley zone) and its tributaries, e.g. at Linakaleng, Mashai, Sehonghong, Tsoelike, Qhoali and Quthing. Another 3–7 sites are expected in other parts of Maloti. Additionally, a few pairs may have been overlooked in the foothills and Senque Valley (Table 2). The total number of Black Stork pairs nesting in Lesotho can, therefore, be estimated at 35–50 pairs. This result corrects previous estimates, which were inevitably imprecise, as they were not based on systematic field surveys.

Since Black Storks display a high level of philopatry, population trends can be determined by monitoring its nesting sites. It is, therefore, recommended that, at least in some parts of Lesotho, the breeding population is monitored on a 10–20-year basis.

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